

Title (en)  
PHOTOVOLTAIC PANEL HAVING ENHANCED CONVERSION EFFICIENCY STABILITY

Publication  
**EP 0114494 A3 19860312 (EN)**

Application  
**EP 83307745 A 19831220**

Priority  
• IN 844DE1983 A 19831216  
• US 45092082 A 19821220

Abstract (en)  
[origin: EP0114494A2] A photovoltaic panel for converting light into electrical energy has enhanced energy conversion efficiency stability. The panel includes a photovoltaic device having an active region formed from a semiconductor material which exhibits an energy conversion efficiency stability directly related to the operating temperature of the device. The panel also includes means for maintaining the operating temperature of the device upon exposure to light at an elevated temperature above the ambient temperature external to the device. The active region semiconductor material is preferably an amorphous semiconductor alloy such as, for example, an amorphous silicon alloy. The operating temperature elevating means can include a thermal insulating material such as glass wool, styrofoam, or cork applied to the back side of the device to minimize heat conduction from the device. The panel can also include an enclosure for enclosing the device having a transparent cover overlying the device to seal the enclosure and provide a still air space adjacent the device. The panel is thereby arranged to maintain the operating temperature of the device at a temperature which is from about twenty degrees Centigrade to about one hundred and fifty degrees Centigrade above the ambient temperature external to the device.

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**H01L 31/02**; **H01L 31/06**; **H01L 25/04**

IPC 8 full level  
**H01L 31/04** (2006.01); **H01L 31/042** (2006.01); **H01L 31/048** (2006.01); **H01L 31/052** (2006.01); **H01L 31/075** (2006.01); **H01L 31/20** (2006.01)

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Citation (search report)  
• [Y] US 3866285 A 19750218 - CLARK HAROLD A  
• [Y] US 4095997 A 19780620 - GRIFFITHS KENNETH F  
• [A] US 3597281 A 19710803 - FANG PAO-HSIEN, et al  
• [A] US 2888007 A 19590526 - ZVI TABOR HARRY  
• [A] DE 2832475 A1 19800207 - LICENTIA GMBH  
• [A] FR 2471670 A1 19810619 - JUNGEHUELSING & KRUSE PATENT [DE]  
• [A] US 4224081 A 19800923 - KAWAMURA KOICHI, et al  
• [A] US 4334120 A 19820608 - YAMANO MASARU, et al  
• PATENTS ABSTRACTS OF JAPAN, vol. 6, no. 60 (E-102)[938], 17th April 1982; & JP - A - 57 1263 (FUJI DENKI SEIZO K.K.) 06-01-1982  
• [Y] PATENT ABSTRACTS OF JAPAN, vol. 6, no. 60 (E-102)[938], 17th April 1982; & JP-A-57 001 263 (FUJI DENKI SEIZO K.K.) 06-01-1982  
• [A] THE CONFERENCE RECORD OF THE TWELFTH IEEE PHOTOVOLTAIC SPECIALISTS CONFERENCE 1976, 15th-18th November 1976, Baton Rouge, Louisiana, US, pages 317-331; D. CARMICHAEL et al.: "Materials for encapsulation systems for terrestrial photovoltaic arrays"

Cited by  
EP0171274A3

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**EP 0114494 A2 19840801**; **EP 0114494 A3 19860312**; AU 2259983 A 19840628; IN 172491 B 19930904; JP H0758799 B2 19950621; JP S59119771 A 19840711

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**EP 83307745 A 19831220**; AU 2259983 A 19831220; IN 844DE1983 A 19831216; JP 23958683 A 19831219